CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.06/KRIDL/CEMENT/2014-15 Date: 06.08.2014

TEST REPORT

CLIENT	:	**Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.
AGENCY	:	**Technical Manager,** KRIDL, Bangalore.
NAME OF THE WORK	:	Improvements to Roads and Drains at Ambedkar Colony right side in Ward No.06, in Thanisandra Village Limits, BBMP, Bangalore.
REFERENCE	:	AEE/BTP/WO/426/2014-15 Dated: 04.08.2014
SAMPLE ID	:	Cement
SAMPLES SUPPLIED BY	:	AGENCY

The results of the tests conducted on the cement sample are as follows:

Sl.No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	a) Initial Setting Time	IS-4031 (Part -5)	145 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5)	490 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part 3) by the Le-Chatelier method	1 mm	Not more than 10 mm
3	Standard Consistency	IS-4031 (Part -4)	26.50 %	-

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Job No.: CTCE/BBMP/W.No.06/KRIDL/SAND/2014-15 : 06.08.2014

TEST REPORT ON FINE AGGREGATES (SAND)
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.

Agency : **Technical Manager,** KRIDL, Bangalore.

Name of Work : Improvements to Roads and Drains at Ambedkar Colony right side in Ward No.06, in Thanisandra Village Limits, BBMP, Bangalore.

Reference : AEE/BTP/WO/426/2014-15 Dated: 04.08.2014

Date of Testing : 06.08.2014

Material : Sand Total Wt. of Aggregates in gms **2000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits For Zone-II
10	0	0	0	100	100
4.75	88	4.40	4.40	95.6	90-100
2.36	225	11.25	15.65	84.4	75-100
1.18	529	26.45	42.10	57.9	55-90
600 Micron	426	21.30	63.40	36.6	35-59
300 Micron	452	22.60	86.00	14.0	8-30
150 Micron	199	9.95	95.95	4.1	0-10

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Job No.: CTCE/BBMP/W.No.06/KRIDL/AGG/2014-15 : 06.08.2014

TEST REPORT ON COARSE AGGREGATES
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.

Agency : **Technical Manager,** KRIDL, Bangalore.

Name of Work : Improvements to Roads and Drains at Ambedkar Colony right side in Ward No.06, in Thanisandra Village Limits, BBMP, Bangalore.

Reference : AEE/BTP/WO/426/2014-15 Dated: 04.08.2014

Date of Testing : 06.08.2014

Material : 40mm Aggregates

Total Wt. of Aggregates in gms 25000

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits
80	0	0	0	100	100
40	995	3.98	3.98	96.02	95-100
20	16253	65.01	68.99	31.01	30-70
10	4990	19.96	88.95	11.05	10-35
4.75	2505	10.02	98.97	1.03	0-5

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NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.06/KRIDL/STEEL/2014-15 06.08.2014

TEST REPORT ON REINFORCEMENT STEEL

Client : **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.

Agency : **Technical Manager,** KRIDL, Bangalore.

Name of the work : Improvements to Roads and Drains at Ambedkar Colony right side in Ward No.06, in Thanisandra Village Limits, BBMP, Bangalore.

Reference : AEE/BTP/WO/426/2014-15 Dated: 04.08.2014

Date of Test : 06.08.2014

Technical Reference : IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm²	Tensile strength (Ultimate stress) N/mm²	Elongation percent gauge length		
1	10	0.62	513	546	13.05	O.K	O.K

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NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.06/KRIDL/WMM/Gradation/2014-15 06.08.2014

GRADATION FOR WMM
MORTH TABLE-400-11

Client : **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.

Agency : **Technical Manager,** KRIDL, Bangalore.

Name of Work : Improvements to Roads and Drains at Ambedkar Colony right side in Ward No.06, in Thanisandra Village Limits, BBMP, Bangalore.

Reference : AEE/BTP/WO/426/2014-15 Dated: 04.08.2014

Date of Testing : 06.08.2014

Material : WMM

Sample Location : WMM Mix Plant Oven Dry Wt (gm): 25200

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	895	895	3.6	96.4	95-100
22.4	5525	6420	25.5	74.5	60-80
11.2	5265	11685	46.4	53.6	40-60
4.75	4130	15815	62.8	37.2	25-40
2.36	4010	19825	78.7	21.3	15-30
0.600	2595	22420	89.0	11.0	8-22
0.075	2455	24875	98.7	1.3	0-8

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NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.06/KRIDL/CUBE/2014-15 15.09.2014

TEST REPORT ON CONCRETE CUBES

Client : **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.

Agency : **Technical Manager,** KRIDL, Bangalore.

Name of the work : Improvements to Roads and Drains at Ambedkar Colony right side in Ward No.06, in Thanisandra Village Limits, BBMP, Bangalore.

Reference : AEE/BTP/WO/426/2014-15 Dated: 04.08.2014

Sample ID : Drain Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{20}

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	18.08.2014	15.09.2014	8.266	510.4	22.68
2	18.08.2014	15.09.2014	8.147	482.3	21.44
3	18.08.2014	15.09.2014	8.382	527.1	23.43

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Job No.: CTCE/BBMP/W.No.06/KRIDL/SDBC/Bitumen/2014-15 09.09.2014

BITUMEN CONTENT AND GRADATION DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

As per IS2386 and IRC:SP:11-1984

CLIENT	**Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.
AGENCY	**Technical Manager,** KRIDL, Bangalore.
NAME OF THE WORK	Improvements to Roads and Drains at Ambedkar Colony right side in Ward No.06, in Thanisandra Village Limits, BBMP, Bangalore.
REFERENCE	AEE/BTP/WO/426/2014-15 Dated: 04.08.2014
SAMPLE I/D	Roads and Drains at Ambedkar Colony right side in Ward No.06
DATE OF TESTING	09.09.2014

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	474	475
3. Weight of Asphalt and Mineral matter Extracted,	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	26	25.00
7. Bitumen content in %	5.20	5.00
8. Average	**5.10**	

GRADATION AFTER EXTRACTION

SIEVE SIZE	Trail 1				JOBMIX
mm	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	Gradation
13.2	0	0	0	100	100
9.5	36.25	7.65	7.65	92.35	90-100
4.75	262.3	55.34	62.99	37.01	35-51
2.36	54.21	11.44	74.42	25.58	24-39
1.18	36.12	7.62	82.04	17.96	15-30
0.3	28.14	5.94	87.98	12.02	9-19
0.075	24.58	5.19	93.16	6.84	3-8

SIEVE SIZE	Trail 2				JOBMIX
mm	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	Gradation
13.2	0	0	0	100	100
9.5	29.25	5.85	5.85	94.15	90-100
4.75	251.6	50.32	56.17	43.83	35-51
2.36	89.23	17.85	74.02	25.98	24-39
1.18	49.26	9.85	83.87	16.13	15-30
0.3	33.78	6.76	90.62	9.38	9-19
0.075	21.52	4.30	94.93	5.07	3-8

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